

REMARKS

The Official Action of March 25, 2003 has been carefully considered and reconsideration of the application as amended is respectfully requested.

The specification has been amended at page 12 to correct an error in equation (12a). Both the error and the correction would have been clear to one of skill in the art from the application as filed such that the correction does not introduce new matter.

The claims have been amended to remove the bases for the Examiner's rejections under 35 USC 112, second paragraph appearing on pages 4-6 of the Official Action. With respect to claims 33, 43, 44, 63 and 64, the claims have been amended to tie the final process step to the preamble and the allegedly objectionable term "essentially" has been deleted. With respect to claims 46, 48, and 49, Applicants have substituted the algorithms described in the specification for the recitations "Algorithm B", Algorithm C" and "Algorithm D". With respect to claims 51-53, Applicants have inserted into the claims the corresponding equations from the specification at pages 15-22 so as to provide antecedent basis for all recitations. All claims as amended are believed to be sufficiently definite to satisfy the dictates of 35 USC 112, second paragraph.

The claims stand rejected under the written description provisions of 35 USC 112, first paragraph because the cited equations allegedly are not described in the specification as filed. Applicants respectfully traverse these rejections.

Regarding Claim 38, the equation cited by the Examiner is the same as eq (1) on page 6 of the specification, except that in the equation on page 6, the product ranges over the entire set of possible edges:

$$x \in \sum^k$$

Whereas in Claim 38, the product ranges over a subset E of

$$\sum^k$$

$$\bar{x} \in E$$

Support for the equation of Claim 38 may be found on page 21 line 20 to page 22 line 1, where it is stated that the scoring method may be calculated over a proper subset of ("...the microarray is not the set of all k-mers...").

$$\vec{x} \in \Sigma^k$$

Regarding Claim 43, the second equation cited by the Examiner is completely equivalent to eq 13a of the description and Applicants have now replaced the allegedly objectionable equation with eq 13a.

The first equation cited by the Examiner in Claim 43 is identical to equation 12a on page 12, except that in equation 12a there was an obvious typographical error. The right parenthesis appearing after the capital E under the word max has been moved to the left to come after the y to correct this error. The amended equation appears here:

$$P[\vec{y}, j] = \arg \max_{\vec{z} = \langle z_0 z_1 \dots z_{K-1} \rangle, E = (\vec{z}, \vec{y}) \in e} \{S^u[z, j-1] + \omega(e)\}$$

Regarding the Equation cited by the Examiner in Claim 57, this equation is the same as eq (4b) on page 7 of the specification, except that (as with the equation cited by the Examiner from claim 38) in the equation on page 7, the product ranges over the entire set of possible edges:

$$x \in \Sigma^k$$

Whereas in Claim 57, the product ranges over a subset E of

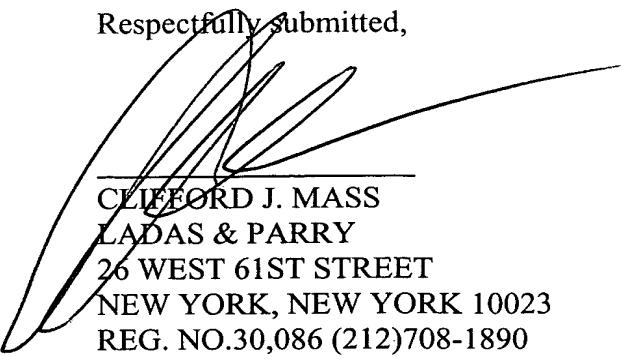
$$\Sigma^k$$

As stated above with regard to Claim 38, support for the equation of Claim 57 may be found on page 21 line 20 to page 22 line 1.

In view of the above, all rejections and objections of record are believed to have

been overcome and the application is believed to be in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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